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Directive: NPD 8610.24A

Effective Date: February 14, 2000

Expiration Date: February 14, 2005

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Responsible Office: M / Office of Space Flight

Subject: Expendable Launch Vehicle (ELV) Launch Services Prelaunch Readiness Reviews

1. POLICY

- a. NASA is accountable for program mission success which includes launch success. In order to meet these responsibilities for launch success when NASA missions utilize commercial launch services or Department of Defense (DOD)-provided launch services, NASA management assesses and certifies the readiness of the launch vehicle, payload support hardware/software, and launch site infrastructure preparatory to launch through a structured prelaunch review process. This directive standardizes the ELV portion of the prelaunch review process for each NASA-owned, NASA-sponsored mission.
- b. The following ELV prelaunch reviews shall be conducted for each NASA-owned, NASA-sponsored mission for which NASA has acquired launch services:
- (1) Kennedy Space Center (KSC) Launch Vehicle Launch Readiness Review (LVLRR)

The LVLRR is held to certify the readiness to proceed with spacecraft/launch vehicle integration activities and is held prior to spacecraft shipment to the launch site and/or vehicle erection at the launch site. The LVLRR is chaired by the KSC ELV Lead Center Director who reviews any launch vehicle anomalies/issues associated with the mission identified.

(2) Flight Readiness Review (FRR)

The FRR is held to update the mission status, closeout actions from the previously held CDLVRR and Customer Mission Readiness Review (MRR), and certify the readiness to proceed with initiation of the launch countdown. The FRR is chaired by the KSC NASA Launch Manager (NLM), and is held approximately 3 days before launch at the launch site.

(3) Launch Readiness Review (LRR)

The LRR is held to update the mission status, closeout actions from the previously held LVLRR and Mission Readiness Review (MRR), authorize

approval to proceed into launch countdown, and sign the Certification of Flight Readiness. The LRR is cochaired by the NASA Launch Manager (NLM) and the NASA Mission Director and is held at the launch site no later than the day before launch.

(4) Final Commit-to-Launch Poll

The Final Commit-to-Launch Poll is conducted to confirm NASA readiness to launch. This Poll is conducted by the NLM for the NASA Mission Director approximately 5 minutes before launch. A "Go" statement is required from all parties polled to enter into the terminal count.

Mandatory launch constraints cannot be waived during the conduct of the terminal launch countdown.

- c. The KSC ELV Program and Project Offices may conduct other reviews as appropriate and necessary in preparation for launch. These may include, but are not limited to, Mission Requirements Reviews, Critical Design Reviews, Design Certification Reviews, Preship Reviews, Ground Operations Reviews, Project Manager's Reviews, Flight Readiness Reviews and appropriate safety reviews.
- d. The mission spacecraft will typically undergo a parallel prelaunch review process that includes the spacecraft and ground system elements as well as the launch service. The Spacecraft Mission Readiness Review (MRR) is chaired by the Spacecraft Lead Center Director who chairs the spacecraft Center Program Management Council (PMC). The MRR is held after the LVLRR.

2. APPLICABILITY

This policy applies to NASA Headquarters, NASA Centers, and their Component Facilities, and the Jet Propulsion Laboratory to the extent specified in its contract.

3. AUTHORITY

42 U.S.C. 2473(c)(1), Section 203(c)(1) of the National Aeronautics and Space Act of 1958, as amended.

4. REFERENCE

- a. 42 U.S.C. Sections 2465b-f, the Launch Services Purchases Act of 1990, as amended.
- b. NPD 8610.23A, "Technical Oversight of Expendable Launch Vehicle (ELV) Launch Services."
- c. NPD 8610.7, "Launch Services Risk Mitigation Policy for NASA-Owned, NASA-Sponsored Payloads."

5. RESPONSIBILITY

a. The Associate Administrator for Space Flight is responsible for the ELV Program. The Director, Expendable Launch Vehicle Requirements is responsible for representing OSF at any Prelaunch ELV Reviews.

- b. The KSC ELV Program Manager is responsible for the following:
- (1) Coordinating participation of spacecraft and launch service projects, safety and mission assurance, and launch service contractors representatives at the LVLRR.
- (2) Establishing a NASA advisory team to provide an independent assessment of the launch countdown process and launch readiness for each launch to the KSC Center Director. This team shall be comprised of senior ELV and spacecraft managers.
- c. The NASA Mission Director is responsible for coordinating participation of spacecraft, payload instruments, and ground operations at the MRR and for providing the spacecraft go/no-go to the NLM for the Final Commit to Launch Poll.
- d. The NASA Launch Manager is responsible for the following:
- (1) Coordinating participation of the spacecraft project, launch services project and contractors, range safety, weather, tracking and data, safety and mission assurance and public affairs representatives at the LRR.
- (2) Assuring signature of the Certification for Flight Readiness (COFR) at the conclusion of the FRR. Signatories to the COFR shall include the NASA Mission Director, the NASA Launch Manager, the Launch Services Contractor, the NASA SMA representative, and a Range Safety official.
- (3) Developing and coordinating a Contingency Action Plan prior to the LRR which addresses the immediate launch site reaction plan associated with a launch vehicle anomaly and requisite data impoundment process. This Plan is coordinated with the NASA Mission Director.
- (4) Conducting the Final Commit-to-Launch Poll. The NASA Launch Manager provides the final launch commitment to the Launch Services Launch Director. The Poll shall include the NASA Mission Director, NASA advisory team, NASA safety and mission assurance representative, and other NASA organizations involved in the countdown.

6. DELEGATION OF AUTHORITY

None.

7. MEASUREMENTS

- 1. A record of all ELV prelaunch reviews, action items disposition, and the original COFR will be maintained by the KSC ELV Program Office.
- 2. KSC will document lessons learned and corrective actions taken on the launch process after each mission.

8. CANCELLATION

NMI 8610.24, "Expendable Launch Vehicle (ELV) Launch Services Prelaunch Reviews," dated October 28, 1993.

/s/ Daniel S. Goldin Administrator

ATTACHMENT A: (TEXT)

None.

(URL for Graphic)

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